PHOSPHORUS OXYCHLORIDE

CAUTIONARY RESPONSE INFORMATION

Common Synonyms
Phosphorus oxychloride

Oily liquid Colorless to light yellow Musty odor
Fumes in air, sinks and reacts with water. Poisonous gas is produced.
Freezing point is 34°F.

Evacuate. Keep people away. Avoid contact with liquid and vapor.
Wear chemical protective suit with self-contained breathing apparatus.
Notify local health and pollution control agencies.
Protect water intakes.

Fire
Not flammable. Wear chemical protective suit with self-contained breathing apparatus. Do not use water on adjacent fires.

Exposure
CALL FOR MEDICAL AID.

VAPOR
Irritating to eyes, nose, and throat. Harmful if inhaled. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.

LIQUID
Will burn skin and eyes. Harmful if swallowed. Remove to fresh air. Flammable liquids and vapors are present. Water will not dilute or disperse dissolved material. Neutralize spill with water and dilute with water. Notify local health and pollution control agencies. Keep people away. Avoid contact with liquid and vapor. Evacuate.

Water Pollution
Dangerous to aquatic life in high concentrations. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Chemical safety goggles; face shield; self-contained or air-line respirator; hard hat; boot protection; rubber gloves and clothing.

3.2 Symptoms Following Exposure: Exposure to concentrated fumes may cause severe burns of the eyes and respiratory tract. Liquid is very corrosive to body tissues because of reaction with water to form hydrochloric and phosphoric acids. Immediate contact with the skin may cause severe burns and permanent disability. Do not add water to undiluted material.

3.3 Treatment of Exposure: CAUTION: persons doing treatments should protect themselves against exposure. INHALATION: remove victim from contaminated area at once. If breathing has stopped, start artificial respiration; call a doctor. INGESTION: give water or milk; do NOT induce vomiting. SKIN: remove contaminated clothing and flood exposed skin surfaces with water. EYES: retract eyelids and wash with water for at least 15 min.; call a doctor.

3.4 TLV-TWA: Not listed.
3.5 TLV-NC: Not listed.
3.6 TLV-CA: Not listed.
3.7 Health Hazard: Not pertinent.
3.8 Biological Hazard: Not pertinent.
3.9 Physical Hazard: Not pertinent.
3.10 No OSHA PEL: Not listed.
3.11 Not OSHA PEL-TWA: Not listed.
3.12 Not OSHA PEL-STEL: Not listed.
3.13 Solvent: Not listed.
3.14 OSHA PEL-C: Not listed.
3.15 OSHA PEL-TWA: Not listed.
3.16 OSHA PEL-STEL: Not listed.
3.17 ACGIH TLV: Not listed.

3.18 TLV: Not listed.
3.19 Exposure: Not pertinent.
3.20 Physical Hazard: Not pertinent.
3.21 Biological Hazard: None.

4. FIRE HAZARDS

4.1 Flash Point: Not flammable.
4.2 Flammable Limits in Air: Not flammable.
4.3 Fire Extinguishing Agents: Sand and carbon dioxide on adjacent fires.
4.4 Fire Extinguishing Agents Not to Be Used: Water.
4.5 Special Hazards of Combustion: Products of combustion are irritating.
4.6 Behavior in Fire: Poisonous, corrosive, irritating fumes are generated when heated or in contact with water.
4.7 Auto Ignition Temperature: Not flammable.
4.8 Electrical Hazards: Not pertinent.
4.9 Burning Rate: Not flammable.
4.10 Absolute Flame Temperature: Currently not available.
4.11 Stoichiometric Air to Fuel Ratio: Not pertinent.
4.12 Combustion Temperature: Currently not available.
4.14 Minimum Oxygen Concentration for Combustion: Currently not available.

5. CHEMICAL REACTIVITY

5.1 Reactivity with Water: Vigorous reaction with evolution of hydrogen chloride and phosphine.
5.2 Reactivity with Common Materials: Corrosive to most metals except nickel and lead. Products of its reaction with water rapidly corrode steel and most metals with formation of flammable hydrogen gas.
5.3 Stability During Transport: Stable.
5.4 Neutralizing Agents for Acids and Caustics: Flush with water, neutralize acids formed with lime or soda ash.
5.5 Polymerization: Not pertinent.
5.6 Inhibitor of Polymerization: Not pertinent.

6. WATER POLLUTION

6.1 Aquatic Toxicity: Currently not available.
6.2 Waterfowl Toxicity: Currently not available.
6.3 Biological Oxygen Demand (BOD): None.
6.4 Food Chain Concentration Potential: None.
6.5 GESAMP Hazard Profile: Bioaccumulation: 0. Damage to living resources: (1) Human Oral hazard: 2. Human Contact hazard: II Reduction of amenities: XX

7. SHIPPING INFORMATION

7.1 Grades of Purity: 99.99%.
7.2 Storage Temperature: Above 35°F.
7.3 Inert Atmosphere: No requirement.
7.4 Venting: Pressure vacuum.
7.5 IMO Pollution Category: Currently not available.
7.6 Ship Type: Currently not available.
7.7 Barge Hull Type: Currently not available.

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Category: Corrosive material
8.2 49 CFR Class: II
8.3 49 CFR Package Group: II
8.4 Marine Pollutant: Not pertinent.
8.5 NFEHA Risk Rating Classification:

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State: C and 1 atm: Liquid.
9.2 Molecular Weight: 153.33
9.3 Boiling Point at 1 atm: 225°F = 107°C = 380°F.
9.4 Freezing Point: 34°F = 1°C = 274°F.
9.5 Critical Temperature: 629.6°F = 352°C = 665.2°F.
9.6 Critical Pressure: Not pertinent.
9.7 Specific Gravity: 1.675 at 20°C (liquid).
9.8 Surface Tension: Not pertinent.
9.9 Liquid Water Interfacial Tension: Not pertinent.
9.10 Vapor (Gas) Specific Gravity: Not pertinent.
9.11 Ratio of Specific Heats of Vapor (Gas): 1.230.
9.12 Latent Heat of Vaporization: 97 Btu/lb = 54 kcall/g = 2.3 X 10^6 J/kg.
9.15 Heat of Solution: Not pertinent.
9.16 Heat of Polymerization: Not pertinent.
9.17 Heat of Fusion: Currently not available.
9.18 Limiting Value: Currently not available.
9.19 Reid Vapor Pressure: Currently not available.

10. WATER POLLUTION

10.1 Aquatic Toxicity: Currently not available.
10.2 Waterfowl Toxicity: Currently not available.
10.3 Biological Oxygen Demand (BOD): None.
10.4 Food Chain Concentration Potential: None.
10.5 GESAMP Hazard Profile: Bioaccumulation: 0. Damage to living resources: (1) Human Oral hazard: 2. Human Contact hazard: II Reduction of amenities: XX

NOTES

JUNE 1999
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